

IN THE CLAIMS

Claims 1-65 (Canceled).

Claim 66 (Currently Amended): Permeable flexible composite based on at least one perforated and permeable carrier, which contains on at least one side of the carrier and inside the carrier at least one inorganic component, which ~~consists essentially of~~ comprises (A) at least one compound of a metal, a metalloid or a composition metal and (B) at least one element from group III to VII of the periodic system, which permeable flexible composite is obtained by application of a suspension ~~in which the suspension comprises at least one inorganic component consisting essentially of a compound of at least one metal, a metalloid or a composition metal and at least one element of main groups III to VII in at least one sol which is a metal oxide sol, semimetal oxide sol or a mixed metal oxide sol~~ to a perforated and permeable mesh carrier and subsequently heating at least once during which ~~the suspension comprising said~~ at least one inorganic component is solidified on and in the carrier, wherein the ratio of the particle size of the suspended component to the mesh or pore opening of the mesh support ~~is from 1:1000 to 50:1000 and wherein the composite material has a thickness from 5 to 1000  $\mu\text{m}$ , and wherein the carrier has a mesh opening of the support is 50 to 500  $\mu\text{m}$ ,~~

wherein the suspension comprises a sol of at least one oxide of an element selected from the group consisting of metals, metalloids, and composition metals, obtained by hydrolyzing a nitrate, halogenide, carbonate or alcoholate compound of said element, and a compound of at least one element from group III to VII of the periodic system, the suspension containing no organic binder,

wherein (A) is said at least one oxide of an element, and (B) is said compound, and wherein (B) has a particle size greater than the particle size of (A).

Claim 67 (Previously Presented): Composite according to Claim 66, wherein the composite is permeable for gases, solids or liquids.

Claim 68 (Previously Presented): Composite according to Claim 66, wherein the composite is permeable for particles with a size of 0.5 nm to 10  $\mu\text{m}$ .

Claim 69 (Previously Presented): Composite according to Claim 66, wherein the carrier contains fibers from at least one of the following materials: carbon, glass, metals, alloys, ceramic materials, minerals, plastics, amorphous substances, natural products, composites or at least one combination of these materials.

Claim 70 (Previously Presented): Composite according to Claim 66, wherein the carrier contains at least woven fibers made from metal or alloys.

Claim 71 (Previously Presented): Composite according to Claim 66, wherein the carrier contains at least one mesh made from steel.

Claim 72 (Currently Amended): Composite according to Claim 66, wherein an said inorganic component, ~~which contains at least one compound containing at least one metal, metalloid or composition metal with at least one element from group III to VII of the periodic system or at least one mixture of these compounds, contains at least one compound of the transition element groups and of the element of group III to V of the periodic system or at least one compound of the transition element groups or of the elements of group III to V of the periodic system, whereby the compounds have~~ has a particle size of 0.001 to 25  $\mu\text{m}$ .

Claim 73 (Currently Amended): Composite according to Claim 72, wherein ~~the inorganic component (B)~~ contains at least one compound containing at least one of the elements Sc, Y, Ti, Zr, Nb, V, Cr, Mo, W, Mn, Fe, Co, B, Al, In, Tl, Si, Ge, Sn, Pb, Sb and Bi, with at least one of the elements Te, Se, S, O, Sb, As, P, N, C, and Ga.

Claim 74 (Canceled).

Claim 75 (Currently Amended): Composite according to Claim 74, wherein the ~~particle size fraction in the composite contains a~~ particle size ratio of (A) to (B) is less than 1:1 and up to and including 1:100.

Claim 76 (Currently Amended): Composite according to Claim 74, wherein the ~~composite contains a~~ quantitative proportion of particle size fraction of particles of (A) to particles of (B) is between 0.01 to 1 and 1 to 0.01.

Claim 77 (Previously Presented): Composite according to Claim 66, wherein the composite is flexible to a smallest radius of up to 2 nm.

Claim 78 (Currently Amended): Process of preparing a composite as claimed in Claim 66, ~~wherein at least one suspension, which contains at least one inorganic component consisting of at least one compound of at least one metal, one metalloid or one composition metal with at least one of the elements from group III to VII of the periodic system, and a sol is applied to at least one perforated and permeable carrier, and wherein the suspension is stabilized on and in the carrier material by being heated at least once~~ comprising applying

said suspension comprising said sol of at least one oxide of an element selected from the group consisting of metals, metalloids, and composition metals, obtained by hydrolyzing a nitrate, halogenide, carbonate or alcoholate compound of said element, and a compound of at least one element from group III to VII of the periodic system, the suspension containing no organic binder, to said perforated and permeable mesh carrier, and subsequently heating at least once during which said at least one inorganic component is solidified on and in the carrier.

Claim 79 (Previously Presented): Process according Claim 78, wherein the suspension is applied onto or into or onto and into at least one carrier by stamping on, pressing on or in, rolling on, applying with a blade or brush, dipping, spraying, or pouring.

Claim 80 (Previously Presented): Process according to Claim 78, wherein a perforated and permeable carrier is used that contains one of the following materials: carbon, metals, alloys, glass, ceramic materials, plastics, amorphous substances, natural products, composites or at least one combination of these materials.

Claim 81 (Currently Amended): Process according to Claim 78, wherein the sols are obtained by hydrolyzing ~~at least one metallic compound, at least one metalloid compound or at least one composition metallic compound~~ with one liquid, one gas or one solid.

Claim 82 (Currently Amended): Process according to Claim 81, wherein water, water vapor, ice, alcohol or an acid or a combination of these compounds is used as the one liquid, the one gas or the one solid for the hydrolysis of ~~the metallic compound~~.

Claim 83 (Previously Presented): Process according to Claim 81, wherein the compound to be hydrolyzed is placed in alcohol or in an acid or a combination thereof before hydrolysis.

Claim 84 (Canceled).

Claim 85 (Currently Amended): Process according to Claim ~~84~~ 78, wherein said (A) ~~is at least one oxide of an element selected from the group consisting of at least one metal alcoholate compound or at least one metalloid-alcoholate compound from the alcoholate compounds of the elements Ti, Zr, Al, Si, Sn, Ce and Y or at least one metal nitrate, metal carbonate or metal halogenide from the metallic salts from the elements Ti, Zr, Al, Si, Sn, Ce and Y~~ is hydrolyzed.

Claim 86 (Previously Presented): Process according to Claim 81, wherein the hydrolysis of the compounds to be hydrolyzed is carried out with at least half the molar ratio of water, in relation to the hydrolyzable group of the hydrolyzable compound.

Claim 87 (Previously Presented): Process according to Claim 81, wherein the hydrolyzed compound is treated with at least one organic or inorganic acid.

Claim 88 (Previously Presented): Process according to Claim 87, wherein the organic or inorganic acid has a concentration of 10 to 60 %.

Claims 89-90 (Canceled).

Claim 91 (Currently Amended): Process according to Claim ~~89~~ 78, wherein ~~an inorganic component is suspended that contains (B)~~ is at least one compound from the oxides of the elements of the transition element groups or the elements from group III to V of the periodic system.

Claim 92 (Previously Presented): Process according to Claim 91, wherein the oxides are selected from oxides of the elements Sc, Y, Ti, Zr, V, Cr, Nb, Mo, W, Mn, Fe, Ce, Co, B, Al, In, Tl, Si, Ge, Sn, Pb and Bi.

Claim 93 (Previously Presented): Process according to Claim 78, wherein the percentage by mass of the suspended components is 0.1 to 500 times the amount of hydrolyzed compound used.

Claim 94 (Previously Presented): Process according to Claim 78, wherein the suspension on or in or on and in the carrier is stabilized by heating the composite to between 500 and 1000 °C.

Claim 95 (Previously Presented): Process according to Claim 94, wherein the composite is subjected to a temperature of between 50 and 10 °C for 10 minutes to 5 hours.

Claim 96 (Previously Presented): Process according to Claim 94, wherein the composite is subjected to a temperature of between 100 and 800 °C for 1 second to 10 minutes.

Claim 97 (Previously Presented): A process for the separation of material mixtures comprising filtering material mixtures through the composite of Claim 66 to separate components thereof.

Claim 98 (Previously Presented): A process for the separation of liquid mixtures, mixtures containing at least one liquid and at least one gas, mixtures containing at least one solid and at least one liquid, and mixtures containing at least one gas and at least one solid or at least one liquid or one gas comprising filtering said mixtures through the composite of Claim 66 to separate components thereof.

Claim 99 (Previously Presented): A process for pressurized separation (process) comprising filtering a mixture of materials under pressure with the composite of Claim 66 to separate components thereof.

Claim 100 (Previously Presented): A process for micro-filtration, ultra-filtration or nano-filtration comprising filtering micro-sized, ultra-sized or nano-sized particle containing mixtures through a membrane of the composite of Claim 66 to separate the micro-sized, ultra-sized or nano-sized particles.

Claim 101 (Previously Presented): A process comprising carrying out a catalytic process with the composite of Claim 66.

Claim 102 (Previously Presented): A formselective membrane comprising the composite of Claim 66.

Claim 103 (Previously Presented): A wound module comprising the form-selective membrane of Claim 102.

Claim 104 (Previously Presented): A flat module comprising the form-selective membrane of Claim 102.

Claim 105 (Previously Presented): A diaphragm or battery separator comprising the composite of Claim 66.

Claim 106 (New): Composite according to Claim 66, wherein said (A) is at least one oxide of an element selected from the group consisting of Zr, Si, Sn, Ce and Y.

Claim 107 (New): Process according to Claim 85, wherein said (A) is at least one oxide of an element selected from the group consisting of Zr, Si, Sn, Ce and Y.



DISCUSSION OF THE AMENDMENT

Claim 66 has been amended for purposes of clarification and deleting language having no antecedent basis; by changing "consists essentially of" to --comprises--; by deleting the recital of the ratio of the particle size of the suspended component to the mesh or pore opening of the mesh support; by reciting that the sol is obtained by hydrolyzing a nitrate, chloride, carbonate, or alcoholate compound of the metal, metalloid and/or composition metal, as supported in the specification at page 9, lines 2-5; by reciting that the suspension contains no organic binder, as inferentially supported by the specification at page 2, lines 14-16, wherein Davidson et al, *infra*, is described as containing an organic bonding agent which is, in effect, disadvantageous. See also the specification at page 2, lines 22-24. Claim 66 has been further amended to make clear that the at least one inorganic component contains two different components, designated as (A) and (B), respectively, and to recite that (B) has a particle size greater than the particle size of (A), as supported in the specification, for example, at page 7, lines 15-20.

The remaining amendments have been made to be consistent with the amendments to Claim 66. In addition, various clarifying amendments have been made to Claims 72, 73, 75, 76, 78, 81, 82, 85, and 91. Claims 74, 84, and 89-90 have been cancelled. Finally, new Claims 106 and 107 have been added, as supported in the specification at page 9, line 7.

No new matter has been added by the above amendment. Claims 66-73, 75-83, 85-88, and 91-107 are now pending in the application.